

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A method of making a light-emitting device, the method comprising:  
bonding a layer of a reflective material with a layer of p-doped material,  
wherein:  
the light-emitting device comprises a multi-layer stack of materials including the  
layer of p-doped material, a light-generating region, and a first layer;  
the first layer includes a surface having a dielectric function that varies spatially  
according to a pattern; and  
the reflective material is capable of reflecting at least about 50% of light  
generated by the light-generating region that impinges on the layer of reflective material.
2. (Original) The method of claim 1, further comprising, before bonding the layer of  
the reflective material with the layer of p-doped material, bonding the first layer with a substrate,  
the multi-layer stack of materials being between the substrate and the layer of reflective material.
3. (Original) The method of claim 2, further comprising forming a bonding layer  
between the first layer and the substrate.
4. (Original) The method of claim 2, further comprising removing the substrate.
5. (Original) The method of claim 4, further comprising lapping and polishing steps  
after removing the substrate.
6. (Canceled)

7. (Original) The method of claim 4, wherein removing the substrate includes heating a bonding layer disposed between the first layer and the substrate.

8. (Original) The method of claim 7, wherein heating the bonding layer decomposes at least a portion of the bonding layer.

9. (Currently Amended) The method of claim 7, wherein heating the bonding layer ~~including~~ includes exposing the bonding layer to radiation emitted by a laser.

10. (Original) The method of claim 9, wherein removing the substrate includes exposing the substrate using a laser liftoff process.

11. (Original) The method of claim 4, wherein removing the substrate results in the surface of the first layer becoming substantially flat.

12-14. (Canceled)

15. (Original) The method of claim 4, further comprising forming the pattern in the surface of the first layer.

16. (Original) The method of claim 15, wherein forming the pattern includes using nanolithography.

17. (Original) The method of claim 15, wherein the pattern has features that are greater than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be emitted by the first layer.

18. (Original) The method of claim 1, further comprising disposing a substrate on the layer of reflective material.

19. (Original) The method of claim 1, further comprising disposing a current-spreading layer between the first layer and the light-generating region.

20. (Original) The method of claim 1, wherein the light-emitting device is selected from the group consisting of light-emitting diodes, lasers, optical amplifiers, and combinations thereof.

21. (Original) The method of claim 1, wherein the light-emitting device comprises a light emitting diode.

22. (Original) The method of claim 1, wherein the light-emitting device is selected from the group consisting of OLEDs, flat surface-emitting LEDs, HBLEDs, and combinations thereof.

23. (Currently Amended) A method of making a light-emitting device, the method comprising:

disbonding a substrate bonded with a first layer, and  
planarizing a surface of the first layer after disbonding the substrate,

wherein the first layer forms a portion of a multi-layer stack of materials that includes a light-generating region, and the method forms a light-emitting device in which a surface of the first layer has a surface with a dielectric function that varies spatially according to a pattern.

24. (Currently Amended) The method of claim 23, ~~further comprising wherein~~  
planarizing includes lapping and polishing steps after disbonding the substrate.

25. (Original) The method of claim 23, wherein disbonding the substrate includes heating a bonding layer disposed between the first layer and the substrate.

26. (Original) The method of claim 25, wherein heating the bonding layer decomposes at least a portion of the bonding layer.

27. (Currently Amended) The method of claim 25, wherein heating the bonding layer ~~including~~ includes exposing the bonding layer to radiation emitted by a laser.

28. (Original) The method of claim 27, wherein disbonding the substrate includes exposing the substrate using a laser liftoff process.

29. (Original) The method of claim 23, wherein disbonding the substrate results in the surface of the first layer becoming substantially flat.

30. (Currently Amended) The method of claim 23, ~~further comprising wherein~~ planarizing a the surface of the first layer ~~after the first substrate is disbanded~~ includes etching the surface of the first layer.

31. (Currently Amended) The method of claim 23 ~~claim 30~~, wherein planarizing the surface of the first layer includes chemical-mechanical polishing the surface of the first layer.

32. (Currently Amended) The method of claim 23 ~~claim 30~~, wherein planarizing the surface of the first layer reduces a roughness of the surface of the first layer to greater than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be emitted by the first layer.

33. (Original) The method of claim 23, further comprising, after disbonding the substrate, forming the pattern in the surface of the first layer.

34. (Original) The method of claim 33, wherein forming the pattern includes using nanolithography.

35. (Original) The method of claim 33, wherein the pattern has features that are greater than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be emitted by the first layer.

36. (Original) The method of claim 23, wherein the first layer comprises a layer of an n-doped material, the multi-layer stack further includes a layer of p-doped material, and the light-generating region is between the layer of p-doped material and the layer of n-doped material.

37. (Previously Presented) The method of claim 1, wherein the surface of the first layer has features with a size of less than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

38. (Previously Presented) The method of claim 23, wherein the surface of the first layer has features with a size of less than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

39. (New) A method of making a light-emitting device comprising a multi-layer stack of materials including a layer of p-doped material, a light-generating region, and a first layer, the method comprising:

bonding the first layer with a substrate;

subsequent to bonding the first layer with the substrate, bonding a layer of a reflective material with the layer of p-doped material, the multi-layer stack of materials being between the substrate and the layer of reflective material; and

removing the substrate,

wherein:

the first layer includes a surface having a dielectric function that varies spatially according to a pattern;

the reflective material is capable of reflecting at least about 50% of light generated by the light-generating region that impinges on the layer of reflective material; and

the substrate is removed after bonding the layer of the reflective material with the layer of p-doped material.

40. (New) The method of claim 39, further comprising forming a bonding layer between the first layer and the substrate.

41. (New) The method of claim 39, further comprising lapping and polishing steps after removing the substrate.

42. (New) The method of claim 39, wherein removing the substrate includes heating a bonding layer disposed between the first layer and the substrate.

43. (New) The method of claim 42, wherein heating the bonding layer decomposes at least a portion of the bonding layer.

44. (New) The method of claim 42, wherein heating the bonding layer includes exposing the bonding layer to radiation emitted by a laser.

45. (New) The method of claim 44, wherein removing the substrate includes exposing the substrate using a laser liftoff process.

46. (New) The method of claim 39, wherein removing the substrate results in the surface of the first layer becoming substantially flat.

47. (New) The method of claim 39, further comprising, before forming the pattern in the surface of the first layer, planarizing the surface of the first layer after the first substrate is removed.

48. (New) The method of claim 47, wherein planarizing the surface of the first layer includes chemical-mechanical polishing the surface of the first layer.

49. (New) The method of claim 47, wherein planarizing the surface of the first layer reduces a roughness of the surface of the first layer to greater than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be emitted by the first layer.

50. (New) The method of claim 39, further comprising forming the pattern in the surface of the first layer.

51. (New) The method of claim 50, wherein forming the pattern includes using nanolithography.

52. (New) The method of claim 50, wherein the pattern has features that are greater than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be emitted by the first layer.

53. (New) The method of claim 39, further comprising disposing a substrate on the layer of reflective material.

54. (New) The method of claim 39, further comprising disposing a current-spreading layer between the first layer and the light-generating region.

55. (New) The method of claim 39, wherein the light-emitting device is selected from the group consisting of light-emitting diodes, lasers, optical amplifiers, and combinations thereof.

56. (New) The method of claim 39, wherein the light-emitting device comprises a light emitting diode.

57. (New) The method of claim 39, wherein the light-emitting device is selected from the group consisting of OLEDs, flat surface-emitting LEDs, HBLEDs, and combinations thereof.

58. (New) A method of making a light-emitting device comprising a multi-layer stack of materials including a layer of p-doped material, a light-generating region, and a first layer, the first layer including a surface having a dielectric function that varies spatially according to a pattern, the method comprising:

bonding the first layer with a substrate;

subsequent to bonding the first layer with the substrate, bonding a layer of a reflective material with the layer of p-doped material, the multi-layer stack of materials being between the substrate and the layer of reflective material;

removing the substrate;

planarizing a surface of the first layer after the substrate is removed; and

before forming the pattern in the surface of the first layer, planarizing the surface of the first layer,

wherein the reflective material is capable of reflecting at least about 50% of light generated by the light-generating region that impinges on the layer of reflective material.

59. (New) The method of claim 58, further comprising forming a bonding layer between the first layer and the substrate.



60. (New) The method of claim 58, wherein planarizing the surface of the first layer includes lapping and polishing steps.

61. (New) The method of claim 58, wherein the substrate is removed after bonding the layer of the reflective material with the first layer.

62. (New) The method of claim 58, wherein removing the substrate includes heating a bonding layer disposed between the first layer and the substrate.

63. (New) The method of claim 62, wherein heating the bonding layer decomposes at least a portion of the bonding layer.

64. (New) The method of claim 62, wherein heating the bonding layer includes exposing the bonding layer to radiation emitted by a laser.

65. (New) The method of claim 64, wherein removing the substrate includes exposing the substrate using a laser liftoff process.

66. (New) The method of claim 58, wherein removing the substrate results in the surface of the first layer becoming substantially flat.

67. (New) The method of claim 58, wherein planarizing the surface of the first layer includes chemical-mechanical polishing the surface of the first layer.

68. (New) The method of claim 58, wherein planarizing the surface of the first layer reduces a roughness of the surface of the first layer to greater than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be emitted by the first layer.

69. (New) The method of claim 58, further comprising forming the pattern in the surface of the first layer.

70. (New) The method of claim 69, wherein forming the pattern includes using nanolithography.

71. (New) The method of claim 69, wherein the pattern has features that are greater than about  $\lambda/5$ , where  $\lambda$  is a wavelength of light that can be emitted by the first layer.

72. (New) The method of claim 58, further comprising disposing a substrate on the layer of reflective material.

73. (New) The method of claim 58, further comprising disposing a current-spreading layer between the first layer and the light-generating region.

74. (New) The method of claim 58, wherein the light-emitting device is selected from the group consisting of light-emitting diodes, lasers, optical amplifiers, and combinations thereof.

75. (New) The method of claim 58, wherein the light-emitting device comprises a light emitting diode.

76. (New) The method of claim 58, wherein the light-emitting device is selected from the group consisting of OLEDs, flat surface-emitting LEDs, HBLEDs, and combinations thereof.